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January 3, 1941

ACKNOWLEDGED RECEIPT
1/3/41

Mr. Frederick Laist, Vice-President
International Smelting and Refining Co.
25 Broadway (Room 1720)
New York, N. Y.

Dear Sir: Re: Johnson et al. Application, Ser. No. 178,352, For: Method of Producing White Lead

This is to advise you that we have filed the amendment and the affidavit executed by Mr. Knox in response to the Office action of August 6, 1940, in the above-identified application. Two copies of the amendment and affidavit as filed are enclosed herewith.

Very truly yours,

James W. Laist

Copy of letter with enclosures sent Mr. Case - 1/3/41
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IN THE UNITED STATES PATENT OFFICE

In re application of	:	
GUNNARD E. JOHNSON, REGINALD G. BOWMAN and WILLIAM J. KNOX, JR.	:	
Serial No. 178,352	:	METHOD OF PRODUCING WHITE LEAD
Filed December 6, 1937	:	
Div. 56 - Room 4725	:	

New York, N.Y., Dec. 31, 1940

Honorable Commissioner of Patents

Washington, D.C.

S I R :

In response to the Office Action of August 6, 1940, please amend the above-identified application as follows:

Claim 4, last line, change the period to a comma and add --whereby the composition of the precipitated white lead is controlled without the building up of an excess quantity of ions in the electrolyte.--;

Claim 5, last line, before the period insert --in such an amount that the quantity of alkali metal ions in the electrolyte is not increased at a rate in excess of the rate at which alkali metal ions are lost from the electrolyte in the course of normal operation of the cell--;

Claim 11, last line, before the period insert --without building up an undesirable quantity of ions in the electrolyte--.

REMARKS

Reconsideration of this application in its amended form is respectfully requested.

The affidavit of William J. Knox, Jr., filed concurrently with the supplemental amendment dated December 27, 1939, showed that the control method of the present invention is superior to the control method embodied in procedure (1) of the Johnson et al patent. The Office Action of August 6, 1940 states that comparison "should have been made with processes 2 and 4 of the reference (page 1, lines 39-50), in neither of which is it necessary to titrate the catholyte, adjust the CO_2 damper, or rely on flow of catholyte through the diaphragm."

Accordingly, a second affidavit of William J. Knox, Jr., one of the applicants in the above-identified application, is being filed concurrently herewith for the purpose of showing the superiority of the control method of this application over procedures (2) and (4) of the Johnson et al patent. The affidavit points out that the method of control represented by procedures (2) and (4) of the Johnson et al patent are not commercially feasible. With these methods of control the acetate ions in the case of procedure (2) and the sodium ions in the case of procedure (4) must be added in substantial excess of the normal operating loss of these ions in order to secure effective control of the bicarbonate ion concentration in the anolyte. The affidavit further points out that the building up of such ions in the electrolyte requires discarding of a portion of the electrolyte in order to permit dilution of the remaining electrolyte up to the volume limited by the capacity of plant equipment.

The cost of the reagents thus discarded is so great that the methods of control which build up ions in the electrolyte at a rate greater than the rate at which these ions are lost in the course of normal cell operation (procedure (2) and (4) of the Johnson et al patent) cannot be employed in commercial operation.

It is a fact that the control method defined in the claims of the present application is not described in the Johnson et al patent. The attached affidavit, together with the previously filed affidavit, show the advantage of the present control method over procedures (1), (2) and (4) of the Johnson et al patent. Procedure (3) of this references is not pertinent to the claims of the present application. It is submitted, therefore, that claims 2, 4, 5 and 11 which define applicants' novel and superior control method patentably distinguish over the patent to Johnson et al and the other references of record. Reference has been made in the last Office Action to the patent to Rosenstein as showing the adjustment of bicarbonate ion concentration by the addition of alkali. However, the Rosenstein patent merely describes the use of sodium bicarbonate as a buffer salt in controlling hydroxide ion concentration in a non-analogous chemical reaction, and there is no suggestion in this patent that hydroxide ions (obtained by the addition of an alkali) would be effective in the control of the bicarbonate ion concentration in the electrolytic production of white lead.

Claims 4, 5 and 11 have been amended to emphasize the fact that an undesirable quantity of ions is not built

up in the electrolyte by the control method defined in the claims. This is a result which is not accomplished by any of the references of record.

It is submitted, therefore, that claims 2, 4, 5 and 11 clearly and patentably define over the references of record and that the application is now in condition to be passed to issue.

Favorable reconsideration and early allowance are respectfully requested.

Respectfully submitted,

Attorneys for Applicants.